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Mr. Paul Takacs
Project Manager
Federal Sites Management Unit
Bureau of Land
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62794-9276

Subject: Scope of Work for Addendum to Source Control Operable Unit

Dear Mr. Takacs:

Based on the data obtained to date for Area 9/10 and our discussions with you, CDM has developed the following scope of work and cost estimate for the addendum to the SCOU. The work will be performed in Area 9/10 to supplement the existing work plan and better determine the extent to which contaminant sources in the area are affecting groundwater quality at the site. The addendum has been broken up into four tasks and cost spreadsheets and backup information are provided for each task in Attachments 1 and 2. The scope of each task is described below:

Task A - Planning, Subcontractor Coordination, Mobilization and Utility Clearance

This task includes evaluation of the existing data from the SCOU and Mid-States and the development of this planning document, budget and Quality Assurance Project Plan (QAPP) Addendum. Based on the scope of work described herein, CDM coordinated with the two existing subcontractors, Terra-Trace and Terra-Con to get cost estimates for the addendum work. CDM also coordinated with the previous surveyor for the site to get an estimate for surveying in the location and elevation of the new monitoring wells and a local analytical laboratory to get costs for analysis of fast turnaround water samples for volatile organics.

The QAPP addendum will be a brief (less than 10 pages) document describing the additional scope of work, referencing the Phase II and SCOU QAPPs where appropriate and providing the SOP for the groundwater screening analysis to be performed by NET Laboratory.

CDM

CDM will stake the new sample locations, obtain utility clearance, and mobilize additional equipment for well installation and sampling to the site. CDM assumes that IEPA will have access obtained in advance of the start of the work.

Task B - Geoprobe Groundwater Samples/Water Level Measurements

CDM and their subcontractor, Terra-Trace will perform Geoprobe groundwater sampling at three locations within the areas shown on Figure 1. Groundwater in these areas is approximately 30 - 35 feet below ground surface. Estimated maximum total depth for the sampling is 60 feet below ground surface. Groundwater samples will be collected every 10 feet starting at the water table to total depth for a maximum total of 4 groundwater samples per borehole. The twelve investigative samples plus one field blank and one field duplicate will be sent to NET Laboratory in Rockford for 24 hour turnaround analysis. The samples will be analyzed for Volatile Organic Compounds (VOCs) using method SW 846 - 8240.

Prior to the groundwater sampling, CDM will perform a round of water levels at 4 of the Mid-States wells (MW 2,3,4, and 5) and at CDM's existing wells, MW 127 and MW 128. This round of water levels will be used to check the integrity of the Mid-States wells and allow for a determination of groundwater flow direction in the area. This will help ensure that the geoprobe groundwater samples and subsequent monitoring well installation will be upgradient of the suspected source area.

The groundwater sampling will be conducted by first driving a steel probe into the subsurface using the Geoprobe method. Once the probe has reached the desired depth, it will be pulled up approximately 4 inches to remove the expendable drive point. A small diameter polyethylene tube fitted with a check valve at its end will be lowered into the probe. When the tube has reached the bottom of the probe, it will be quickly raised and lowered into the probe by hand. The action of raising and lowering the polyethylene tube will fill the tube with groundwater. The check valve at the end will restrict water flow back into the probe and eventually groundwater will flow from the tube into the sample bottle. The samples collected in this manner will be sent for the VOC analysis previously described. This analysis will provide screening level information to be used to determine the zone of highest relative VOC contamination below the water table.

Task C - Monitoring Well Installation, Development, and IDW Collection and Disposal

CDM and their subcontractor, Terra-Con will install three monitoring wells in the areas shown on Figure 1. The drilling method will be hollow-stem auger. Wells will be 2-inch diameter stainless steel, flush-mount with 10 foot stainless steel screens. Wells will be screened at the interval of highest relative VOC concentrations as determined by the geoprobe groundwater sampling. Estimated maximum depth for the wells is 50 feet in the northeast area and 55 feet in the southern area. Continuous split-spoon samples will be collected during drilling.

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from the water table to total depth, for one well in the northeast area and the well in the southern area to gather information on the stratigraphy in the areas and to ensure the wells are screened in a permeable zone.

Upon completion of the wells and after a 48 hour period, CDM's subcontractor will develop the wells using procedures consistent with the Phase II Groundwater study. All drill cuttings, development water, purge water and other investigation derived wastes will be drummed, transported to the drum storage area, and disposed of by the drilling subcontractor. CDM estimates an additional 15 drums of liquid and 10 drums of soils and solids to be generated. IEPA will be responsible for signing all manifests.

Task D - Water Levels, Monitoring Well sampling, and Surveying

To assess the groundwater flow in the area of the new wells, CDM will take water level measurements at 4 of the Mid-States monitoring wells (likely MW #5, #2, #3 and #4 depending on condition of the wells) and 5 CDM wells (3 new wells and MW 127 and 128). CDM assumes that the integrity and useability of the Mid-States wells is adequate for this purpose.

Groundwater samples will be collected from the three new CDM wells and two of the Mid-States wells, depending on the well integrity as determined during water level measurements. The groundwater samples will be analyzed by the CLP for Routine Analytical Services (RAS), Volatile Organic Analyses (VOA).

Monitoring wells will be purged and sampled using the procedures documented in the Phase II Groundwater Sampling Plan. All purge water will be containerized and stored in the drum storage area for disposal by the drillers. The new CDM wells and the 4 Mid-States wells used for water levels will be surveyed by Missman-Stanley and Associates, the surveyor that performed the surveying for the Phase II wells. CDM will provide oversight and monitoring well access to Missman-Stanley. CDM assumes that IEPA will obtain access to the Mid-states wells in advance of the water level and sampling event so that their integrity can be verified.

In order to avoid remobilization costs for the subcontractors, this work will be conducted from June 24th through July 12th. No remobilization costs have been included in this estimate. For this cost estimate, CDM assumes that IEPA will arrange for USEPA to provide the necessary equipment to conduct the groundwater sampling task. No costs have been included for equipment for this task. The equipment will include: one 2" Grundfos pump; one electric water level tape; one pH, temperature, conductivity meter; one organic vapor analyzer/or photoionization meter; and any other equipment that may be necessary based on field conditions (and is available from USEPA).

The total estimated cost for this additional work is \$48,979. This includes \$45,509 in total labor, other direct costs and outside professionals and \$3,471 in fee. This

Because the budget for the Technical Memorandum task will be completely expended at the completion of the additional field work, CDM will not be able to perform Task 11-Preparation of Technical Memorandum until receiving a budget amendment or a written assurance from IEPA that a project amendment will be forthcoming. Additionally, CDM will be performing work beyond our approved upper limit for this project. CDM will need written approval from IEPA to do this.

Very truly yours,

Wendy Dewar
Wendy Dewar
Project Manager

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SCOU Addendum BUDGET ESTIMATE

Task Description	Professional 5		Professional 4		Professional 3		Professional 2		Professional 1		No
	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$	
A. Planning/Reconstructing/ Mobility Clearance	0	\$0	12	\$866	12	\$872	0	\$180	4	\$73	
B. Geospatial Groundwater Sampling	0	\$0	2	\$84	20	\$744	4	\$86	20	\$305	
C. Monitoring Well Installation/ Development/DW Disposal	0	\$0	4	\$189	0	\$0	110	\$2,780	0	\$0	
D. Water Levels Monitoring Well Sampling/Overlying	0	\$0	0	\$0	0	\$0	30	\$888	20	\$511	
TOTALS	0	\$0	16	\$789	40	\$1,364	140	\$3,841	24	\$690	

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SCOU Addendum BUDGET ESTIMATE

Task Description	Hotel		Meals		Total Per Diem	Equipment	Trans- portation	Copies \$.10/Page	Fax \$.15/Page	Misc Cost
	\$45 / Day		\$24 / Day							
	Days	\$	Days	\$	\$	\$	\$	\$	\$	\$
A. Planning/Reconnaissance/ Mobility Clearance	0	\$0	1	\$24	\$24	\$120	\$45	\$10	\$30	\$0
B. Geoprobe Groundwater Sampling	4	\$180	4	\$96	\$276	\$0	\$360	\$0	\$0	\$0
C. Monitoring Well Installation/ Development/DM Disposal	0	\$0	0	\$0	\$0	\$0	\$360	\$0	\$0	\$0
D. Water Level/Monitoring Well Sampling/Surveying	4	\$180	4	\$96	\$276	\$0	\$360	\$0	\$0	\$0
TOTALS	10	\$720	17	\$408	\$1,280	\$0	\$1,175	\$10	\$30	\$0

SCOU Addendum Budget Estimate

[illegible]

SCOU Addendum BUDGET ESTIMATE

Task Description		Hours	Direct Labor	Indirect Labor	Total Labor	OOCA Costs	Subcontractor Costs	Total Costs
A. Permitting/Access		20	\$1,141	\$2,807	\$3,948	\$0	\$0	\$3,948
McGraw-Hill Construction								
B. Geoprobe Drilling		60	\$1,500	\$2,301	\$3,801	\$0	\$0	\$3,801
Geoprobe Drilling								
C. Monitoring Well Installation		120	\$4,007	\$8,004	\$12,011	\$0	\$0	\$12,011
Drilling and Installation								
D. Monitoring Well Installation		60	\$1,517	\$2,943	\$4,460	\$0	\$0	\$4,460
Well Installation								
E. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
F. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
G. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
H. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
I. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
J. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
K. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
L. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
M. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
N. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
O. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
P. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
Q. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
R. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
S. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
T. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
U. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
V. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
W. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
X. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
Y. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								
Z. Well Installation		270	\$8,010	\$12,300	\$20,310	\$0	\$0	\$20,310
Well Installation								

Task B Subcontractor costs include \$2000 for geoprobe groundwater sampling and \$3700 for laboratory analysis.
 Task C Subcontractor costs include costs for well installation and IDW transport and disposal.
 Task E Subcontractor cost includes the surveying costs for the 7 wells.

Fixed	\$3,471
Fixed Total	\$48,979

**SCOU ADDENDUM BUDGET BACKUP
FOR
FIELD INVESTIGATION LABOR HOURS**

A Planning/Subcontractor Coordination /Mob/ Utility Clearance

1 person for project planning - 2 days x 8 hours per day	16
1 person to prepare QAPP addendum - 1 day x 8 hours/day	8
1 person to coordinate with subcontractors - 1 day x 8 hours	8
1 person to stake locations and get utility clearance - 4 hours	4
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B Geoprobe Groundwater Samples

1 person to perform GW geoprobe sampling - 2 days x 12 hours/day	24
This assumes 3 sample points, 4 sample intervals, total depth of 60 feet per location	
1 person for sample management - 2 days x 10 hours/day	20
This assumes 14 samples minimum to the local lab	
Technical Oversight	6
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C Monitoring Well Installation/Development/IDW Disposal

2 persons for 4.5 days x 12 hours per day	108
This assumes 3 days for well installation and 1.5 days for development	
Assumes 3 wells, screened at hottest interval, max depth 55ft., continuous split spoons sampling from water table to completion depth. Assumes all cuttings, development water and sample wastes will be drummed	
IDW sampling and disposal oversight - 1 person for 8 hours	8
Technical Oversight	12
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D Water Levels/Monitoring Well Sampling/Surveying

2 persons for 2 days x 12 hours per day	48
Assumes 8 wells for water levels (5 CDM, 4 Mid-States) and 5 wells for sampling (3 CDM and 2 Mid-States)	
Equipment and Supply Management	10
Surveying Oversight	4
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**SCOU ADDENDUM BUDGET BACKUP
FOR
FIELD INVESTIGATION
OTHER DIRECT COSTS**

A Planning/Subcontractor Coordination/Mob/Utility Clearance

Meals - 1 person for 1 day x \$24 per day \$24

Transportation - Personal Vehicle - 150 miles x \$.30 per mile \$45

Photocopying - 100 pages x \$.10 per page \$10

Fax - 20 pages x \$1.50 per page \$30

Telephone \$60

Computer - 8 hours x \$6 per hour \$48

Equipment:

Personal Protective Gear

Hard Hats--2 hats x 8 days x \$0.5/day \$8

Safety Glasses- 2 pair x 8 days x \$0.5/day \$8

Rain Suits--2 suits x 4 days x \$8/day \$64

Decon Sprayer - 1 unit x \$10 per week x 2 weeks \$20

Mobilization Equipment Total \$100

Supplies:

Alconox - 1 box x \$13 per box \$13

5 boxes ziploc bags x \$3 \$15

Distilled Water - 10 gallons x \$4 per gallon \$40

Note: One bottle contains approximately one half gallon

Eye Wash Bottles - 1 bottle x \$5 per bottle \$5

Log books - 1 log x \$11 per log \$11

Strapping Tape - 2 rolls x \$3.50 per roll \$7

Clear Mailing Tape - 1 Roll x \$4.50 per roll \$5

Paper Towels - 6 rolls x \$1.00 per roll \$6

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**SCOU ADDENDUM BUDGET BACKUP
FOR
FIELD INVESTIGATION
OTHER DIRECT COSTS**

Garbage Bags - 1 box x \$10.00 per box	\$10
Vermiculite - (6 cubic foot bag) - 5 bags x \$7 per bag	\$35
20 bags ice x \$1/bag	\$20
Mobilization Supplies Total	\$167
Site Mobilization/Utility Clearance Grand Total	\$484

B Geoprobe Groundwater Samples

Hotel - 2 people for 2 days x \$45 per day	\$180
Meals - 2 people for 2 days x \$24 per day	\$96
Transportation - Rental Van - 1 week x \$250 per week	\$250
Transportation - Personal Vehicle - 450 miles x \$.30 per mile	<u>\$135</u>
Geoprobe Groundwater Sampling Total	\$661

C Monitoring Well Installation/Development/IDW Disposal

Hotel - 2 people for 4 days x \$45 per day	\$360
Meals - 2 people for 4 days x \$24 per day	\$192
Transportation - Rental Van - 1 week x \$250 per week	\$250
Transportation - Personal Vehicle - 450 miles x \$.30 per mile	<u>\$135</u>
Monitoring Well Installation/Development Total	\$937

D Water Levels/Monitoring Well Sampling/Surveying

Hotel - 2 persons for 2 days x \$45 per day	\$180
Meals - 2 persons for 2 days x \$24 per day	\$96
Transportation - Rental Van - 3 days x \$100 per day	\$300

**SCOU ADDENDUM BUDGET BACKUP
FOR
FIELD INVESTIGATION
OTHER DIRECT COSTS**

Transportation - Personal Vehicle - 200 miles x \$.30 per mile \$60

Sample Shipping- Overnight--2 coolers x \$50/cooler \$100

Water Levels/Monitoring Well Sampling/Surveying Total \$736

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